

What is claimed is:

1. A method for populating a main database from speech recognition output based on verbal utterances of a user, said method comprising:

- a) developing a series of contexts, each context comprising a series of navigational commands for populating a selected series of data items of the main database, and each context represented by a context identifier;
- b) creating a word-mapping database for each context, said word-mapping database containing a words drawn from narrative statements (written and oral) associated with the data items in the selected context, as well as linkages between these words and data items;
- c) identifying a selected context by comparing the context identifier of the selected context with speech recognition output generated based on a context-identifying verbal utterance of the user;
- d) recording selected data items within the selected context by mapping the speech recognition output generated based on utterances of the user to data items in the main database using the word-mapping database for the selected context; and
- e) repeating steps c) and d) until the user finishes entering data, thereby populating the main database.

2. The method of claim 1, wherein the series of contexts and word-mapping databases are developed using a hierarchically-organized database representation based on knowledge regarding the relationship of data items in the main database, said hierarchically-organized database representation having a plurality of nodes capable of having further related nodes, fields, or attributes.

3. The method of claim 1, wherein the main database is a medical records database and the series of contexts are developed based on completion of data entry for generation of a medical report.

4. The method of claim 1, wherein speech recognition output is mapped to data items in the selected context using a word-mapping database that includes a set of designated keywords representing spoken phrases for populating data items and by comparing speech recognition output to these keywords.

5. The method of claim 4, wherein speech recognition output is compared to the words of the word-mapping database by:

- a) calculating the number of keywords in a phrase that match speech recognition output to generate a keyword match number;
- 5 b) prioritizing phrases with identical keyword match numbers by calculating the ratio of keywords in a phrase that match speech recognition output to the total keywords in a phrase to generate a keyword match ratio; and
- 10 c) prioritizing phrases with identical keyword match ratios by performing a string comparison algorithm.

6. The method of claim 4, wherein the word mapping is performed by calculating the number of keywords in a phrase that match speech recognition output, by calculating the ratio of keywords in a phrase that match speech recognition output to the total keywords in a phrase, or by performing a string  
5 comparison algorithm.

7. The method of claim 6, wherein the string comparison algorithm comprises the Edit Distance method.

8. A method for populating a main database from speech recognition output based on verbal utterances of a user, comprising:

- a) defining a workflow for populating a selected set of data items in the main database, each workflow providing custom knowledge  
5 comprising a series of navigational commands and a context identifier for associating spoken utterances with explicitly coded data relating to the workflows;
- b) identifying the workflow being employed;
- c) creating a word-mapping database for each workflow; and

- 10 d) populating the selected series of data items for the identified workflow using the series of navigational commands and comparing speech recognition output generated based on the verbal utterances of the user to obtain words and explicitly coded data for populating the main database.

9. A method as recited in claim 8, wherein the defining of the workflows comprises developing a series of contexts for populating the selected data items in the main database with each context being represented by the context identifier.

10. A method as recited in claim 9, wherein the series of contexts are developed using a hierarchically-organized database representation.

11. A method as recited in claim 8, wherein the defined workflow comprises a medical records database and a series of context identifiers developed for the completion of a medical report.

12. A method as recited in claim 8, wherein the defined workflows use the context identifier to provide metrics for scoring the selected context's speech recognition output based on the context-identifying verbal utterance of the user.

13. A system for populating a main database from speech recognition output based on verbal utterances of the user, comprising:

a context identifier for establishing a workflow for information processing of a series of navigational commands for populating a selected series of data items in the main database;

a word-mapping database created for each context identifier comprising words of possible entries of the data items in the context;

a processor for comparing information from the context identifier with speech recognition output generated based on a context-identifying utterance of the user;

a memory device associated with the main database for populating the selected series of data items for the selected context of the context identifier using the series of navigational commands and the speech recognition output.

14. A system as recited in claim 13, wherein processor identifies the selected context associated with the context identifier using metrics for comparing the context identifier with the speech recognition output for generating scores associated with the context-identifying verbal utterance of the user.

15. A system as recited in claim 14, wherein said processor employs multi-level scoring for generating the speech recognition output.